

EXHIBIT X-1

Claim No. \_\_\_\_\_

QUESTIONNAIRE FOR INDUSTRIAL WATER USE CLAIMS

Please answer as completely and accurately as possible. If more space is needed, use additional sheets of paper. Be sure to put your name and the claim number on any extra sheets.

1. Please describe the industrial facility (sawmill, smelter, furniture factory, etc.)
  - a. Briefly describe the size of the industrial operation.
  - b. How has water been used in connection with the industrial facility?
  - c. Is this a private water system or is your water obtained from another water system (i.e. municipal)?
  - d. When was this industrial facility initially constructed and put into operation?
  - e. When was it last operated for this purpose?
2. Please describe the physical status of the industrial operation.
  - a. What physical evidence and structures are at the site?
  - b. In what condition are the site and structures?
  - c. Is the water system in working order or operational?
  - d. If not presently being used, describe any evidence at the site that water was used in the past.
3. Priority date:
  - a. When was water first used as part of this industrial activity?
  - b. What evidence can you provide to support the date of first water use?
  - c. Has the water been used every year since first use? If not, please explain.

EXHIBIT X-1 (cont.)

Claim No. \_\_\_\_\_

- d. Is the system currently used for diverting water for industrial purposes? When was the water last used for industrial purposes?

4. Please describe the original design and operation of the water system associated with the claimed purpose.

- a. Diversion structure:

- (1) Method or type (pump, pipeline, dam, etc.):
- (2) Dimension (pump size, rpm, etc.; headgate dimensions; well depth, casing size, static water table; etc.):
- (3) Date constructed:
- (4) Present operational status:

- b. Conveyance facility:

- (1) Method or type:
- (2) Dimensions and length:
- (3) Slope or elevation change from point of diversion to place of use:
- (4) Present operational status:

- c. Flow rate:

- (1) Has any measurement of water through the system been made or any flow records maintained. When and what were the results?
- (2) What is the peak flow rate that has been diverted through the system for this purpose? How was it determined?
- (3) What is the average flow rate in a 24 hour period diverted through the system for this purpose?
- (4) When was water last diverted at the flow rate claimed?

- d. Volume:

- (1) What is the maximum volume used per year for this purpose? How was it determined?

EXHIBIT X-1 (cont.)

Claim No. \_\_\_\_\_

(2) Have any volume records been maintained? Please provide copies or list the results.

(3) If water is stored in a man-made impoundment, what is its capacity (ac-ft), surface acres (or dimensions), and maximum water depth?

e. Period of Use:

(1) What times of the year has water been used through the system for this purpose (months/days)?

(2) How many hours per day (average) is the system used for this purpose?

f. What happens to the water that is not consumed by this industrial use? Is it returned to the same source?

5. Please describe all modifications or replacements to the original water system and the date each occurred.

6. Plans, maps or photos of the water system and industrial facility would be helpful. In addition, copies of deeds, surveys, and operating licenses or permits would be useful.

Additional Remarks:

Person : Name:

Completing : Address:

Questionnaire :

(Please Print): Phone No.:

Signature: \_\_\_\_\_ Date:

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EXHIBIT X-1 (cont.)

Claim No. \_\_\_\_\_

FOR DEPARTMENT USE

Information Obtained: \_\_\_\_\_ Sent To Claimant \_\_\_\_\_ Telephone Interview  
\_\_\_\_\_ Personal Interview \_\_\_\_\_ Other: \_\_\_\_\_

Reason: \_\_\_\_\_ DNRC Examination  
\_\_\_\_\_ Other: \_\_\_\_\_

Time and  
Location: \_\_\_\_\_

Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

Remarks:

EXHIBIT X-2

Claim No. \_\_\_\_\_

QUESTIONNAIRE FOR MUNICIPAL WATER USE CLAIMS

Please answer as completely and accurately as possible. If more space is needed, use additional sheets of paper. Be sure to put your name and the claim number on any extra sheets.

1. Please describe the municipal system (community water supply, homeowners association, city, etc.)
  - a. Briefly describe the size of the municipal system (number of households, businesses, parks, etc.)
  - b. When was this municipal facility initially constructed and put into operation?
  - c. When was it last operated for this purpose?
2. Please describe the physical status of the municipal operation.
  - a. What physical evidence and structures are at the site (storage tanks, reservoirs, mainlines, laterals, etc.)?
  - b. In what condition are the site and structures?
  - c. Is the water system in working order or operational?
3. Priority date:
  - a. When was water first used as part of this municipal system?
  - b. What evidence can you provide to support the date of first water use?
  - c. Is the system currently used for diverting water for municipal purposes? When was the water last used for municipal purposes?
4. Please describe the original design and operation of the water system associated with the claimed purpose.
  - a. Diversion structure:
    - (1) Method or type (pump, pipeline, dam, etc.):

EXHIBIT X-2 (cont.)

Claim No. \_\_\_\_\_

- (2) Dimension (pump size, rpm, etc.; headgate dimensions; well depth, casing size, static water table; etc.):
- (3) Materials:
- (4) Date constructed:
- (5) Present operational status:
- b. Conveyance facility:
  - (1) Method or type:
  - (2) Dimensions and length:
    - i. Mainline
    - ii. Laterals
  - (3) Materials:
  - (4) Slope or elevation change from point of diversion to place of use (highest to lowest points):
  - (5) Present operational status:
- c. Flow rate:
  - (1) Has any measurement of water through the system been made or any flow records maintained? When and what were the results?
  - (2) What is the peak flow rate that has been diverted through the system for this purpose? How was it determined?
  - (3) What is the average flow rate in a 24 hour period diverted through the system for this purpose?
  - (4) When was water last diverted at the flow rate claimed?
- d. Volume:
  - (1) What is the maximum volume used per year for this purpose? How was it determined?
  - (2) Have any volume records been maintained? Please provide copies or list the results.

EXHIBIT X-2 (cont.)

Claim No. \_\_\_\_\_

\_\_\_\_\_

- (3) If water is stored in a man-made impoundment, what is its capacity (ac-ft), surface acres (or dimensions), and maximum water depth?

e. Period of Use:

- (1) What times of the year has water been used through the system for this purpose (months/days)?

- (2) How many hours per day (average) is the system used for this purpose?

f. What happens to the water that is not consumed by this municipal system? Is it returned to the same source?

5. Please describe all modifications or replacements to the original water system and the date each occurred.

6. Plans, maps or photos of the water system and municipal would be helpful. In addition, copies of deeds, surveys, and operating licenses or permits would be useful.

Additional Remarks:

Person : Name: \_\_\_\_\_  
Completing : Address: \_\_\_\_\_  
Questionnaire : \_\_\_\_\_  
(Please Print) : Phone No.: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

EXHIBIT X-2 (cont.)

Claim No.

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FOR DEPARTMENT USE

Information Obtained: ☐ Sent To Claimant ☐ Telephone Interview  
☐ Personal Interview ☐ Other:

Reason: ☐ DNRC Examination  
☐ Other:

Time and  
Location: \_\_\_\_\_

Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

Remarks: \_\_\_\_\_

EXHIBIT X-3

Claim No. \_\_\_\_\_

QUESTIONNAIRE FOR WILDLIFE USE

Please answer as completely and accurately as possible. If more space is needed, use additional sheets of paper. Be sure to put your name and the claim number on any extra sheets.

1. Is the place of use a natural lake, natural stream channel, man-made reservoir, or other man-made facility such as a tank or pit? Please explain.

2. Is there a man-made diversion, impoundment or other facility to divert water to the claimed place-of-use? If not, please describe how and where the water is used.

3. Is the use commercial, recreational, breeding, food, etc.?

- a. Generally, what species of wildlife use is this water right?
- b. If other than recreational, what quantity of wildlife?
- c. Are the animals fenced in, penned, or free roaming? If penned or fenced, please explain.

4. Is the point of diversion or place of use on property owned by the state or federal government? If yes, specify.

5. Please describe the design and operation of the water use.

- a. Diversion structure (if any):
  - (1) Method or type of diversion structure (dam, headgate, pump, pipeline, etc.):
  - (2) Dimensions (pump size, rpm, etc.; headgate dimensions; etc.):
  - (3) Materials:
  - (4) Date constructed:
  - (5) Present operational status:

EXHIBIT X-3 (cont.)

Claim No. \_\_\_\_\_

- b. Conveyance system (if any):
  - (1) Method or type:
  - (2) Dimensions and length:
  - (3) Materials:
  - (4) Slope or elevation change from point of diversion to place of use:
  - (5) Present operational status:
- c. Flow rate:
  - (1) Have any measurements of water through the system been made? When and what were the results?
  - (2) Have any flow rate records been maintained? Please provide copies or list the results.
  - (3) What is the peak flow rate that has been diverted through the system for wildlife? How was it determined?
  - (4) What is the average flow rate in a 24 hour period diverted through the system for wildlife?
  - (5) When was water last diverted at the flow rate claimed?
- d. Volume:
  - (1) What is the maximum volume used per year? How was it determined?
  - (2) Have any volume records been maintained? Please provide copies or list the results.
  - (3) If the water has been stored in a man-made impoundment, what are its capacity (ac-ft), surface acres (or dimensions), and maximum water depth?

EXHIBIT X-3 (cont.)

Claim No. \_\_\_\_\_

- e. Period of use:
- (1) What times of the year has water been used through the system (months/days)?
  - (2) How many hours per day (average) has the system been used?
- f. What happens to the water after it is used for wildlife? Is it returned to the same source?

6. Priority date:

- a. When was the water first used for wildlife?
- b. What evidence can you provide to support the date of first use?
- c. Has the water been used every year since first use? If not, please explain.
- d. Is the system currently used to divert water for wildlife? When was it last used for wildlife?
- e. If not presently being used, describe any evidence at the site that water was used in the past.

7. Plans, maps, or photos of the water system and wildlife facilities would be helpful. In addition, copies of deeds, surveys, and operating licenses or permits would be useful.

Additional Remarks:

Person : Name: \_\_\_\_\_  
Completing : Address: \_\_\_\_\_  
Questionnaire : \_\_\_\_\_  
(Please Print) : Phone No.: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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EXHIBIT X-3 (cont.)

Claim No. \_\_\_\_\_

FOR DEPARTMENT USE

Information Obtained: \_\_\_\_\_ Sent To Claimant \_\_\_\_\_ Telephone Interview  
\_\_\_\_\_ Personal Interview \_\_\_\_\_ Other:

Reason: \_\_\_\_\_ DNRC Examination  
\_\_\_\_\_ Other:

Time and  
Location: \_\_\_\_\_

Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

Remarks:

EXHIBIT X-4

Claim No. \_\_\_\_\_

QUESTIONNAIRE FOR FISH AND WILDLIFE CLAIMS

Please answer as completely and accurately as possible. If more space is needed use additional sheets of paper. Be sure to put your name and the claim number on any extra sheets.

1. Is the place of use a natural lake, natural stream channel, man-made reservoir, or other man-made facility such as raceways or tanks? Please explain.

2. Is there a man-made diversion, impoundment or other facility to divert water to the claimed place-of-use? If not, please describe how and where the water is used.

3. Is the water diverted only for fish, only for wildlife, or for both?

a. If for fish:

(1) Is this use commercial, recreational, breeding, food, etc.?

(2) What type of fish raised?

(3) If other than recreational, what quantity of fish?

b. If for wildlife:

(1) Is this use commercial, recreational, breeding, food, etc.?

(2) What type of wildlife?

(3) If other than recreational, what quantity of wildlife?

(4) Are the animals fenced in, penned, or are they free roaming?  
If penned or fenced, please explain.

4. Is the point of diversion or place of use on property owned by the state or federal government? If yes, specify.

EXHIBIT X-4 (cont.)

Claim No.

5. Please describe the design and operation of the water use.

- a. Diversion structure (if any):
  - (1) Method or type of diversion structure (dam, headgate, pump, pipeline, etc.):
  - (2) Dimensions (pump size, rpm, etc.; headgate dimensions; etc.):
  - (3) Materials:
  - (4) Date constructed:
  - (5) Present operational status:
- b. Conveyance system (if any):
  - (1) Method or type:
  - (2) Dimensions and length:
  - (3) Materials:
  - (4) Slope or elevation change from point of diversion to place of use:
  - (5) Present operational status:
- c. Flow rate:
  - (1) Have any measurements of water through the system been made? When and what were the results?
  - (2) Have any flow rate records been maintained? Please provide copies or list the results.
  - (3) What is the peak flow rate that has been diverted through the system for fish and wildlife? How was it determined?
  - (4) What is the average flow rate in a 24 hour period diverted through the system for fish and wildlife?
  - (5) when was water last diverted at the flow rate claimed?
- d. Volume:
  - (1) What is the maximum volume used per year? How was it determined?
  - (2) Have any volume records been maintained? Please provide copies of list the results.

EXHIBITT X-4 (cont.)

Claim No. \_\_\_\_\_

- (3) If water is stored in a man-made impoundment, what is its capacity (ac-ft), surface acres (or dimension), and maximum water depth?
- e. Period of use:
- (1) What times of the year has water been used through the system (months/days)?
- (2) How many hours per day (average) has the system been used?
- f. What happens to the water after it is used for fish and wildlife? Is it returned to the same source?
6. Priority date:
- a. When was the water first used for fish and wildlife?
- b. What evidence can you provide to support the date of first use?
- c. Has the water been used every year since first use? If not, please specify.
- d. Is the system currently used to direct water for wildlife? When was it last used for wildlife?
- e. If not presently being used, describe any evidence at the side that water was used in the past.

7. Plans, maps, or photos of the water system and fish and wildlife facilities would be helpful. In addition, copies of deeds, surveys, and operating licenses or permits would be useful.

Additional Remarks:

Person : Name: \_\_\_\_\_  
Completing : Address: \_\_\_\_\_  
Questionnaire : \_\_\_\_\_  
(Please Print) : Phone No.: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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EXHIBIT X-4 (cont.)

Claim No. \_\_\_\_\_

FOR DEPARTMENT USE

Information Obtained: \_\_\_\_\_ Sent To Claimant \_\_\_\_\_ Telephone Interview  
\_\_\_\_\_ Personal Interview \_\_\_\_\_ Other:

Reason: \_\_\_\_\_ DNRC Examination  
\_\_\_\_\_ Other:

Time and  
Location: \_\_\_\_\_

Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

EXHIBIT X-5

Claim No.: \_\_\_\_\_

QUESTIONNAIRE FOR COMMERCIAL WATER USE CLAIMS

Please answer as completely and accurately as possible. If more space is needed, use additional sheets of paper. Be sure to put your name and the claim number on any extra sheets.

1. Please describe the commercial facility (trailer court, restaurant, church, motel, etc.)
  - a. Briefly describe the size of the commercial facility.
  - b. How has water been used in connection with this commercial facility?
  - c. Is this a private water system or is your water obtained from a municipal water system?
  - d. When was this commercial facility initially constructed and put into operation?
  - e. When was it last operated for this purpose?
2. Please describe the physical status of the commercial operation.
  - a. What physical evidence and structures are at the site?
  - b. In what condition are the site and structures?
  - c. Is the water system in working order or operational?
  - d. If not presently being used, describe any evidence at the site that water was used in the past.
3. Priority date:
  - a. When was water first used as part of this commercial activity?
  - b. What evidence can you provide to support the date of first water use?

EXHIBIT X-5 (cont.)

Claim No.: \_\_\_\_\_

- c. Has the water been used every year since first use? If not, please explain.
- d. Is the system currently used for diverting water for commercial purposes?  
When was water last used for commercial purposes?

4. Please describe the original design and operation of the water system associated with the purpose claimed.

- a. Diversion structure:
  - (1) Method or type (pump, pipeline, dam, etc.):
  - (2) Dimensions (pump size, rpm, etc.; headgate dimensions; well depth, casing size, static water table, etc.):
  - (3) Materials:
  - (4) Date constructed:
  - (5) Present operational status:
- b. Conveyance facility:
  - (1) Method or type:
  - (2) Dimensions and length:
  - (3) Materials:
  - (4) Slope or elevation change from point of diversion to place of use:
  - (5) Present operational status:
- c. Flow rate:
  - (1) Has any measurement of water through the system been made?  
When and what were the results?

EXHIBIT X-5 (cont.)

Claim No.: \_\_\_\_\_

- (2) Have any flow rate records been maintained? Please provide copies or list the results.
  - (3) What is the peak flow rate that has been diverted through the system for this purpose? How was it determined?
  - (4) What is the average flow rate in a 24 hour period diverted through the system for this purpose?
  - (5) When was water last diverted at the flow rate claimed?
- d. Volume:
- (1) What is the maximum volume used per year for this purpose? How was it determined?
  - (2) Have any volume records been maintained? Please provide copies or list the results.
  - (3) If water is stored in a man-made impoundment, what is its capacity (ac-ft), surface acres (or dimensions), and maximum water depth?
- e. Period of use:
- (1) What times of the year has water been used through the system for this purpose (months/days)?
  - (2) How many hours per day (average) is the system used for this purpose?
- f. What happens to the water after it is used for this commercial activity? Is it returned to the same source?

EXHIBIT X-5 (cont.)

Claim No. \_\_\_\_\_

5. Please describe all modifications or replacements to the original water system and the date each occurred.

6. Plans, maps, or photos of the water system and commercial facilities would be helpful. In addition, copies of deeds, surveys, and operating licenses or permits would be useful.

Additional Remarks:

Person : Name: \_\_\_\_\_  
Completing : Address: \_\_\_\_\_  
Questionnaire : \_\_\_\_\_  
(Please Print) : Phone No.: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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FOR DEPARTMENT USE

Information Obtained: \_\_\_\_\_ Sent To Claimant \_\_\_\_\_ Telephone Interview  
\_\_\_\_\_ Personal Interview \_\_\_\_\_ Other:

Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

Remarks:

EXHIBIT X-6

Claim No. \_\_\_\_\_

QUESTIONNAIRE FOR MINING CLAIMS

Please answer as completely and accurately as possible. If more space is needed, use additional sheets of paper. Be sure to put your name and the claim number on any extra sheets.

1. Briefly describe the history of the mining activities.
  - a. What type of mining operation (placer, hardrock, etc.) has been conducted on the site(s) associated with this claim? Please explain.
  - b. Is there a milling operation associated with this water right for concentrating the ore?
  - c. What type of ore or material has been mined, explored, or milled?
  - d. What amount of material was mined, milled, or washed each year?
  - e. Are records available (i.e., mill receipts, operating permits or licenses, other written documents)? If so, please attach copies or list results.

2. Please describe the physical status of the mining operation.

- a. What physical evidence and structures are at the site?

- b. Is there evidence at the site that water was used in the past? If yes, please explain.
- c. In what condition are the site and structures?
- d. Is the water system in working order or operational?
- e. If not presently being used, describe any evidence at the site that water was used in the past.

3. Priority date:
  - a. When was water first used as part of the mining activities?

EXHIBIT X-6 (cont.)

Claim No.

- b. What evidence can you provide to support the date of first water use?
  - c. Has the water been used every year since first use? If not, please explain.
  - d. Is the system presently used to divert water for mining activities? When was water last used for mining?
4. Please describe the original design and operation of the water use.
- a. Diversion structure
    - (1) Method or type of diversion structure (headgate, pump, dam, pipeline, etc.):
    - (2) Dimensions (pump size, rpm, etc.; headgate dimensions; etc.):
    - (3) Materials:
    - (4) Present operational status:
    - (5) Location on property:
  - b. Conveyance facility (if any)
    - (1) Method or type:
    - (2) Dimensions and length:
    - (3) Materials:
    - (4) Slope or elevation change from point of diversion to milling or mining equipment:
    - (5) Present operational status:
  - c. Milling or mining equipment that requires water
    - (1) Type of mining equipment:
    - (2) Type of milling equipment:
    - (3) Present operational status:

EXHIBIT X-6 (cont.)

Claim No.

- d. Flow rate
  - (1) Have any measurements of water through the system been made? When and what were the results?
  - (2) Have any flow rate records been maintained? Please provide copies or list the results.
  - (3) What is the peak flow rate that has been diverted through the system for mining? How was it determined?
  - (4) What is the average flow rate in a 24 hour period diverted through the system for mining?
  - (5) When was water last diverted at the flow rate claimed?
- e. Volume
  - (1) What is the maximum volume used per year? How was it determined?
  - (2) Have any volume records been maintained? Please provide copies or list the results.
  - (3) If water is stored in a man-made impoundment, what are its capacity (ac-ft), surface acres (or dimensions), and maximum water depth?
- f. Period of use
  - (1) What times of the year has water been used through the system (months/days)?
  - (2) How many hours per day (average) has the system been used?
  - (3) When is use, is the diversion turned off at night, or does it run 24 hours a day?
- g. What happens to the water after being used in the mining or milling operation? Is it returned to the same source?

5. Please describe all modifications or replacements to the original water system and the date each has occurred.

EXHIBIT X-6 (cont.)

Claim No. \_\_\_\_\_

6. What is the name and registration or survey number for this mining operation? (i.e., Mineral Survey No.\_\_\_\_\_, Mineral Entry No.\_\_\_\_\_, Mineral Certificate No.\_\_\_\_\_, Mineral Patent No.\_\_\_\_\_, etc.)

7. Is the point of diversion or place of use on property owned by the state or federal government? If yes, specify.

8. Plans, maps, or photos of the water and mining systems would be helpful. In addition, copies of deeds, surveys, and operating permits or licenses would be useful.

Additional Remarks:

Person : Name: \_\_\_\_\_  
Completing : Address: \_\_\_\_\_  
Questionnaire : \_\_\_\_\_  
(Please Print) : Phone No.: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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FOR DEPARTMENT USE

Information Obtained: \_\_\_\_\_ Sent To Claimant \_\_\_\_\_ Telephone Interview  
\_\_\_\_\_ Personal Interview \_\_\_\_\_ Other:

Reason: \_\_\_\_\_ DNRC Examination  
\_\_\_\_\_ Other: \_\_\_\_\_

Time and  
Location: \_\_\_\_\_

Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

Remarks:

EXHIBIT X-7

Claim No. \_\_\_\_\_

QUESTIONNAIRE FOR POWER GENERATION CLAIMS

Please answer as completely and accurately as possible. If more space is needed, use additional sheets of paper. Be sure to put your name and the claim number on any extra sheets.

1. Briefly describe the history of the system.
  - a. When was the project initially constructed and put into operation?
  - b. When was water first used as part of the hydropower operation?
  - c. What evidence can you provide to support the date of first water use?
  - d. Is the system currently used to direct water for hydropower purposes?  
When was water last used to generate power?
  - e. If the hydropower activities have not been used continuously, please list the periods (years) of operation.
2. Please describe the physical status of the hydropower operation.
  - a. What physical evidence and structures are at the site?
  - b. Is there evidence at the site that water was used in the past? If yes, please explain.
  - c. Is the system in working order or operational? Please describe its general condition.
  - d. If not presently being used, describe any evidence at the site that water was used in the past.
3. Please describe the original design and operation of the water use.
  - a. Diversion structure
    - (1) Method or type of diversion structure:
    - (2) Dimensions (pump size, rpm, etc.; headgate dimensions; etc.):

EXHIBIT X-7 (cont.)

Claim No. \_\_\_\_\_

- (3) Materials:
  - (4) Present operational status:
- b. Conveyance Facility (if any)
  - (1) Method or type:
  - (2) Dimensions and length:
  - (3) Materials:
  - (4) Elevation change from point of diversion to power plant:
  - (5) Present operational status:
- c. Power Plant
  - (1) Type:
  - (2) Nameplate capacity or design flow rate:
  - (3) Generating capacity in KW:
  - (4) Present operational status:
- d. Flow rate
  - (1) Have any measurements of water through the system been made? When and what were the results?
  - (2) Have any flow rate records been maintained? Please provide copies or list the results.
  - (3) What is the peak flow rate that has been diverted through the system? How was this determined?
  - (4) What is the average flow rate in a 24 hour period diverted through the system?
  - (5) When was water last diverted at the claimed flow rate?

EXHIBIT X-7 (cont.)

Claim No. \_\_\_\_\_

- e. Volume
  - (1) What is the maximum volume used for power generation per year? How was it determined?
  - (2) Have any volume records been maintained? Please provide copies or list the results.
  - (3) If a reservoir is involved, what is the maximum volume diverted into the reservoir per season?
- f. Period of use
  - (1) What times of the year has water been used through the system (months/days)?
  - (2) How many hours per day (average) has the system been used?
- g. What happens to the water after passing through power plant? Is it returned to the same source?

4. Please describe all modifications or replacements to the original system and the date each has occurred.

- 5. Is a reservoir or storage associated with this water right?
  - a. Describe the original storage capacity.
    - (1) On stream or off stream
    - (2) Surface acres (or dimensions)
    - (3) Maximum water depth
    - (4) Total storage capacity
    - (5) Dead storage
    - (6) Period of diversion into reservoir
    - (7) Period of diversion from reservoir
    - (8) Date constructed (1st filing)?

EXHIBIT X-7 (cont.)

Claim No. \_\_\_\_\_

- b. Describe any modification to the original storage capacity and date each has occurred.
- c. If you claimed a flow rate for storage, please indicate how the flow rate was determined?

6. Plans, maps, or photos of the water and power generation systems would be helpful. In addition, copies of deeds, surveys, and operating licenses or permits would be useful.

Additional Remarks:

Person : Name: \_\_\_\_\_  
Completing : Address: \_\_\_\_\_  
Questionnaire : \_\_\_\_\_  
(Please Print) : Phone No.: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

\*\*\*\*\*

FOR DEPARTMENT USE

Information Obtained: \_\_\_\_\_ Sent To Claimant \_\_\_\_\_ Telephone Interview  
\_\_\_\_\_ Personal Interview \_\_\_\_\_ Other:

Reason: \_\_\_\_\_ DNRC Examination  
\_\_\_\_\_ Other:

Time and  
Location:

Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

## EXHIBIT X-13

Reprinted from Bureau of Land Management Technical Manual No. 4,  
Placer Examination, by John Wells, May 1973

### WATER REQUIREMENTS

The source, amount, and delivered cost of water are important elements in a placer operation. In many cases they determine the type of equipment or mining method used. Water estimates for new or proposed operations are generally based on experience or working data obtained from comparable operations.

The water required for various working methods varies widely and depends on many factors. Examples that follow are intended only to show the possible range.

a. Rockers: A steady flow of 4 or 5 gallons per minute is sufficient to operate a small (1' x 4') rocker. Water can be dipped from a barrel where steady flow is not available. Net water consumption may be as low as 50 to 100 gallons per cubic yard, if carefully saved and reused.

b. Small-scale hand mining: Where material is loosened by picking, and shoveled into a sluice box by one or two men, 170 to 225 g.p.m. are required for a 12-inch box with steep grade.

c. Ground sluicing: Water duty varies widely but may range between 1/10 and 3/4 cubic yard per miner's inch-day at small mines. This would be equivalent to about 22,000 to 162,000 gallons per cubic yard.

d. Hydraulicking: Water duty varies widely and reflects the coarseness of gravel, degree of cementing, height of bank, grade of bedrock, available head, etc., and is commonly between 1/2 and 7 cubic yards per miners's inch-day. This would be equivalent to about 2,000 to 32,000 gallons per cubic yard. The better efficiencies are obtained at large, well-equipped mines. Small, 1 or 2-monitor mines operated by individual owners or lessees, usually have a water duty of less than 1 cubic yard per miner's inch-day.

e. Stationary washing plants: These are typically owner-operated plants, fed by a dragline or a small power shovel. Most employ a trommel or other screening device ahead of the sluice. Incomplete figures indicate a range of 650 to 2,000 gallons per cubic yard.

f. Movable washing plants and dryland dredges: In same category as stationary plants and same remarks apply. Water requirements ranging from 480 to 3,200 gallons per cubic yard have been noted. Plants equipped with Ainalay bowls (in place of sluices) generally have good water economy.

## EXHIBIT X-13 (cont.)

g. Dragline dredges: Net water required for washing gravel and maintaining the pond is governed by the amount of clay, porosity of the gravel, and other factors. Wash water which is commonly supplied by an 8-inch centrifugal pump working against a 40-foot pressure head, may range between 570 to 2,500 gallons per cubic yard.

h. Bucket-line dredges: Water in circulation aboard a dredge may range from 3,500 g.p.m. to over 10,000 g.p.m. depending on digging capacity of dredge and type of material being washed. Dredges are usually provided with independent high pressure and low pressure water systems, the high pressure being used for screen sprays and bucket nozzles, and the low pressure for the gold-saving tables and general service. When working in land-locked ponds, a fresh water input of 1,000 g.p.m. to more than 2,000 g.p.m. will be needed to replace muddy water which must be pumped out of the pond (to prevent excessive mud build-up) and to maintain pond level.

## EXHIBIT X-13 (cont.)

Mark O'Keefe  
Program Manager, SB76  
Water Rights Bureau  
32 South Ewing  
Helena, MT 59601

2nd Draft - Educational

RE: Mining Claims as They Apply to Senate Bill 76

In many areas of Montana, the use or historical use of water in connection with the extraction of \*metallic or \*non-metallic deposits is quite evident.

Mining involves the removal of materials from the earth. This is accomplished by several means, depending on the size and type of deposit. Many diverse mining and milling operations are found throughout Montana, most of which utilize ground and or surface water at some stage. If this use of water pre-dates July 1, 1973, (Water Use Act), it must be claimed under the provisions set forth by the law known as Senate Bill 76 or risk water right abandonment.

\*metallic: refers to deposits of gold, silver, iron, copper,  
aluminum, lead, molybdenum, zinc, etc.

\*non-metallic: refers to deposits of coal, gems, talc,  
limestone, phosphate, sand, gravel, rock, etc.

The major obstacle associated with quantifying those existing rights related to mining and mill operations rises from the lack of statistical information on the use. Many of these mines have not been in active operation for years and any information other than that found on the actual "Mining Patent" is difficult to locate. Unfortunately, most flows and volumes put on the Statement of Claim forms are educated guesses at best.

## EXHIBIT X-13 (cont.)

The following water quantifications for mining and mill techniques are general and if measuring devices or water use records are available, they certainly should be utilized. Many uses are non-consumptive and if so, this should be coded to indicate a "flow through non-consumptive use."

Using a ratio proportion type equation it is possible to arrive at a reasonable water use equivalent. This will only be possible if you have some ore amounts or capacities to work with. If not, the following information will be of little help.

Conventional milling, which usually consists of crusher, ball mills, flotation cells, tables, etc., has a rule of thumb requirement of 40 cubic feet per day for each ton of ore processed; that is, a 100 ton mill would require a minimum of 4000 cubic feet of water a day, a 200 ton per day mill would need 8000 cubic feet of water per day.

Heap leaching operations for the precious metals uses less water than conventional milling and need is calculated on the basis of 250 gallons of water for each ton of material being leached.

I have found most water-use for mining operations being claimed under Senate Bill 76 refer to placer mines. In most cases placer mining is a non-consumptive use utilizing a sluice box, rocker, trommel or floating dredge.

A small rocker set-up (1' x 4') may utilize as little as 50-100 gallons per cubic yard of gravel washed, but most small trommels and larger sluice boxes consumption will be closer to 40 gallons of water for each cubic yard of gravel washed.

## EXHIBIT X-13 (cont.)

Small scale hand placer mining: This practice usually involves loosening gravel by picking and then shoveling this material into a sluice box by one or two people. Average water use is 200 gallons per minute for a 12-inch box with a steep grade.

Jigging with a sluice box requires 12-14 gallons per minute per square inch of jig.

An average conventional cyanide mill circuit utilizes 200-600 gallons of water per ton of ore, average flotation circuit takes 600-1000 gallons of water per ton of ore.

Average table circuit uses 1000-1400 gallons of water per ton of ore.

Average jig and table circuit may use 1200-2000 gallons of water per ton of ore.

\*Jig/Jigging: refers to that device or process used to concentrate and separate ore from waste material.

Stationary washing plants: These are typically owner-operated plants, fed by a dragline or a small power shovel. Most employ a trommel or other screening device ahead of a sluice. Average figures indicate a range of 400-600 gallons of water per cubic yard of gravel processed.

Movable washing plants and dryland dredges are in the same category as stationary plants and the same remarks apply. Water requirements ranging from 480-3200 gallons per cubic yard of gravel are not uncommon.

## EXHIBIT X-13 (cont.)

Floating dredges on ponds recirculate the water with little water loss, but water use may vary considerably depending on the number of sluice boxes and their width, but in general need 450 – 5000 gallons per minute for the larger dredges and as low as 500 gallons per minute for the smaller floating units.

Floating dredge water recirculation is governed by the amount of silty deposits, clay, porosity of gravel and other factors. Wash water which is commonly supplied by an 8-inch centrifugal pump working against a 40-foot pressure head, may range between 570-2500 gallons per cubic yard of gravel washed.

Rusty Taylor

Water Rights Analyst  
Water Rights Bureau

## EXHIBIT X-14

### ORSBORN METHOD

#### Estimation Of Mean Stream Flow

To apply the Orsborn method, the reviewer must determine (1) the watershed drainage area in square miles ( $\text{mi}^2$ ) and (2) the mean basin precipitation in inches. The procedure is discussed in a Research Note in this exhibit. When the claimed period of use is less than one year, the Orsborn procedure should still be applied.

The watershed drainage area is defined by drawing a line perpendicular from the source at the POD to the nearest point on the watershed boundary. Then extend the line around the drainage area boundary. It is suggested that the drainage area, once defined, be broken into a square mile grid system for easier estimation. The mean basin precipitation can be found using precipitation maps (1941-1970 base period) prepared by the Soil Conservation Service also in this exhibit. When several isohyetal lines occur in a drainage basin, the mean basin precipitation can be a weighted average, but estimate on the high side.

The Orsborn method has five equations which vary slightly based on five hydrologically homogeneous regions in Montana. The five different regions are outlined in Figure 5 of the Research Note. If the claim is on a boundary line between two regions, choose the higher numbered region. After the region has been determined, Figure 6 of the Research Note gives the corresponding equation. (Enlarged copies of these figures are provided at the end of the Research Note.) It should be noted that the Orsborn method has not been tested for eastern Montana.

Once the average annual discharge (QAA) has been determined, the calculation worksheet and drainage area map will become part of the file.

**EXHIBIT X-18**  
**MUNICIPAL WATER NEEDS**

**MEMORANDUM**

TO: Tim Hall, Legal Counsel  
FROM: Steve Holnbeck, Hydrologist  
SUBJECT: Proposed Procedure to Quantify Municipal and Domestic  
Claims for Water  
DATE: September 26, 1985

Currently there is no specific procedure to review water claims made by communities. The water rights procedure manual indicates that claims for municipal water shall be evaluated on a case-by-case basis. In principal this is a valid policy but more specific direction would be desirable.

Recently claims for municipal water for the community of Philipsburg were objected to by the Department of Natural Resources and Conservation (DNRC). It is likely that future objection for other communities will occur.

At your request, Laurence Siroky and I looked into the matter of quantifying the needs of typical municipalities from the DNRC perspective.

Our investigation utilized the City of Philipsburg for an example but the methods developed could be applied for any community.

At present, the standards are being developed. Information in this paper is considered tentative.

## **EXHIBIT X-18 (Cont.)**

### Background

Water demand information is well documented in literature. Standards have been developed to evaluate the necessary requirements. A rational procedure is thus available to determine the use of water by municipalities.

### Breakdown of Requirements

Municipal and residential water consumption can be separated into the following categories:

1. Yearly average consumption
2. Maximum daily use
3. Maximum hourly use
4. Municipal fire protection requirements
5. System capacity
6. System efficiency
7. Operating records

Investigation of these seven categories will enable the determination of a reasonable rate and volume for the community making a claim. The information will also indicate which category results in a limiting condition with respect to rate and volume.

## EXHIBIT X-18 (Cont.)

### Yearly Average Consumption

Expressed in gallons per capita per day (gpcd), this figure is typically used to compute the volume of water used by a city or town. When multiplied by the population, the total volume over a given period of time can be quantified.

In the case of the Yellowstone Reservations process, it was decided that a reasonable figure of 212 gpcd be used for municipalities claiming reserved water.

Gehm and Bregman<sup>1</sup> contains information that shows residential and total community water use for four Montana cities as follows:

<u>City</u>	Residential Only <u>gpcd</u>	Total Per Capita <u>gpcd</u>
Great Falls	137	228
Missoula	214	429
Billings	119	208
Butte	212	300

Figures reported are for the use and not necessarily the point of withdrawal. Total per capita figures include all industrial and other uses, in addition to the residential use.

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<sup>1</sup> Gehm, H.W. and Jacob I. Bregman, Handbook of Water Resources and Pollution Control. Van Nostrand Reinhold Company, 1976, pp. 63-64.

## EXHIBIT X-18 (Cont.)

In the case of small communities, the figures for residential use would be more appropriate, unless it could be demonstrated otherwise.

A tentative figure of 250 gpcd is proposed to determine the annual volume of water to claim. If a particular community can demonstrate a different figure, it could be used in place of the proposed figure.

### Maximum Daily and Hourly Use

Within the day water demand varies. Hammer<sup>2</sup> reported the following data on these parameters:

#### Variations in Residential Water Consumption (gpcd)

	Range	Average
Maximum Daily Use	160 to 520+	230
Maximum Hourly Use	200 to 1300+	390

From a conservative standpoint, the high end of the range is proposed for use in assessing a water claim. This equals 520 gpcd for maximum daily use and 1300 gpcd for maximum hourly use.

---

<sup>2</sup> Hammer, Mark J., Water and Wastewater Technology. John Wiley and Sons, Inc., p. 173.

## EXHIBIT X-18 (Cont.)

### Municipal Fire Protection Requirements

Standards have been developed by the Insurance Services Office (ISO)<sup>3</sup>, Municipal Survey Service<sup>4</sup> for determining fire protection needs. Criteria have also been developed by the American Water Works Association (AWWA) and the National Board of Fire Underwriters (NBFU).

The proposed method to assess fire flow is based on small community conditions. Under no cases should the fire flow be less than 500 gallons per minute.

An equation by ISO relates fire flow to total floor area and type of construction. The equation is:

$$F = 18C(A)^{0.5} \quad (1)$$

Where:

F = required fire flow in gallons per minutes (gpm)

C = coefficient based on type of construction

A = total floor area of typical residence (ignore  
basement)

Assuming a total residential floor area of 3,000 square feet and wood frame construction (C=1.5) yields a required fire flow of 1,479 gpm. The calculated fire flow is reduced by 25 percent for light fire loading conditions, ISO (1772). Light fire loading is considered to be occupancies such as all forms of housing, churches, schools, offices and other public buildings. Thus, the final required fire flow is approximately 1,110 gpm.

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<sup>3</sup> Grading Schedule for Municipal Fire Protection, Insurance Services Office, Municipal Survey Service, 160 Water Street, New York, N.Y. 10038, 1973.

<sup>4</sup> Guide for Determination of Required Fire Flow, Insurance Services Office, June, 1972.

## **EXHIBIT X-18 (Cont.)**

A second procedure presented by NBFU relates population to required fire flow. Based on this procedure, the required flow is 1200 gpm for a population of 1,200 as in the case of Philipsburg.

ISO (1972) indicates that a fire flow of 1200 gpm would satisfy criteria for one and two-family residential areas not exceeding two stories in height with the distance between dwelling units between 11 and 30 feet.

According to ISO (1973) the required duration for a fire flow of 2,500 gpm or less is 2 hours.

Thus, a fire flow of 1,200 gpm for 2 hours for the communities of Philipsburg is satisfactory.

### System Capacity

In cases where information on the water distribution system is available, a determination can be made on the system capacity.

Typically the system needs to be described in terms of pipe size, condition, material and length. If the system is gravity fed, elevations at the inlet and outlet to the system are needed to determine the total available static head. Reservoirs, water towers and standpipes must be described in terms of the water surface elevations for those facilities. A pressure system containing booster or lift pumps must include information on the capacity of the pump (generally in the form of a pump curve).

Hydraulic calculations can then be performed to determine the capacity of the distribution system.

## **EXHIBIT X-18 (Cont.)**

### System Efficiency

Once the water supply is confined in the distribution system (typically a pipeline) the efficiency is quite high (90~95 percent). However, many diversions begin with an open ditch, flume or other structure that may be of much lower efficiency.

For this condition, the compute capacity for the system may be increased on the basis of an efficiency factor. Determination of the system efficiency is accomplished by obtaining information on the layout and condition of the system from point of diversion to at least the point of distribution. Point of distribution is defined in this paper as the point where the main pipeline begins to branch into many small service lines.

### Operating Records

Records are generally kept at chlorination stations, pumphouses or liftstations where there is a need to monitor flowrate. These records can be used to verify, support or dispute proposed water claims.

### Application of Procedure to City of Philipsburg

At this time, the City of Philipsburg has provided some information on their water distribution system. We are in the process of evaluating that information for determining the system capacity.

## EXHIBIT X-18 (Cont.)

In the meantime, the following example is given to demonstrate how the rate and volume would be quantified, assuming no additional information.

### Peak Flowrate

The maximum flowrate is assumed to be the sum of the maximum hourly flowrate plus the fire flow requirement. This is a conservative assumption in that the two events are treated as though they happened concurrently.

$$\begin{aligned}\text{Max. daily} &= \frac{1,300 \text{ gpcd} \times 1,200 \text{ pop.}}{24 \text{ hr/day} \times 60 \text{ min/hr} \times 448.8 \text{ gpm/cfs}} \\ \text{in cubic feet/sec (cfs)} &= 2.41 \text{ cfs} \\ \text{Fire demand} &= 1,200 \text{ gpm by ISO and NBFU} \\ &= 1,200 \text{ gpm} / 448.8 \text{ gpm/cfs} = 2.67 \text{ cfs} \\ \text{Total peak rate} &= 2.41 + 2.67 = 5.08 \text{ cfs}\end{aligned}$$

### Volume

Total volume is equal to the average daily per capita use multiplied by the population. In the case of Philipsburg, the volume is computed as follows:

$$\begin{aligned}\text{Volume} &= \frac{250 \text{ gpcd} \times 1200 \text{ pop} \times 365 \text{ days}}{325,900 \text{ gals/acre-foot}} = 336 \text{ acre-feet}\end{aligned}$$

Additional volume for storage tanks in the system would be added to this figure.

## EXHIBIT XI-2 DNRC LATE CLAIM CLARIFICATION FORM

Claim No. \_\_\_\_\_

Coding/  
Asterisk

Items

Clarified Data

\_\_\_\_ [ ]  
\_\_\_\_ [ ]

1. Name:  
2. Address:

1. \_\_\_\_\_  
2. \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_ [ ]

3. Use (Purpose):

3. \_\_\_\_\_

_____ [ ]	4. Method of Irrigation:	4. _____
_____ [ ]	5. Source:	5. _____
_____ [ ]	6. Source Type (S or G):	6. _____
_____ [ ]	7. POD:	7. _____
		_____
		_____
		_____
_____ [ ]	8. Means of Diversion:	8. _____
_____ [ ]	9. No. of Livestock (ST):	9. _____
_____ [ ]	10. No. of Households (DM):	10. _____
_____ [ ]	11. POU:	11. _____
		_____
		_____
		_____
_____ [ ]	12. Flow Rate:	12. _____
_____ [ ]	13. Volume:	13. _____
_____ [ ]	14. Climatic Area (IR):	14. _____
_____ [ ]	15. Period of Use:	15. _____
_____ [ ]	16. Type of Right:	16. _____
_____ [ ]	17. Priority Date:	17. _____

Reservoir Record: \_\_\_\_\_ Yes (see reservoir code sheet) \_\_\_\_\_ No  
 Basin Code Okay: \_\_\_\_\_ Yes \_\_\_\_\_ No (if no, change on claim)  
 Fee Okay: \_\_\_\_\_ Yes \_\_\_\_\_ No (if no, explain below)  
 Documentation Attached: \_\_\_\_\_ Yes \_\_\_\_\_ No  
 Map Attached: \_\_\_\_\_ Yes \_\_\_\_\_ No  
 Notarized Signatures: \_\_\_\_\_ Yes \_\_\_\_\_ No

Telephone Contact: \_\_\_\_\_ Yes \_\_\_\_\_ No Date: \_\_\_\_\_  
 Letter Contact: \_\_\_\_\_ Yes \_\_\_\_\_ No Date: \_\_\_\_\_  
 Interview: \_\_\_\_\_ Yes \_\_\_\_\_ No Date: \_\_\_\_\_

ADDENDUMS: \_\_\_\_\_ Yes \_\_\_\_\_ No type: \_\_\_\_\_  
 GENERAL COMMENTS

Clarified By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Coded by: \_\_\_\_\_

EXHIBIT XI-2  
DNRC LATE CLAIM CLARIFICATION FORM

Claim No. \_\_\_\_\_

<u>Asterisk</u>	<u>Items</u>	<u>Clarified Data</u>
[ ]	1. Name: 2. Address:	1. _____ 2. _____ _____ _____ _____
[ ]	3. Use (Purpose): 4. Method of Irrigation:	3. _____

EXHIBIT XII-1

April 2, 2003

D.N.R.C.

41E -W-301224-00

\*\*\*\*\* REVIEW ABSTRACT \*\*\*\*\*

coding

WATER RIGHT NUMBER 41E -W-301224-00

\_\_\_[\*]OWNERS: SCHMANSKY RANCH CO  
% FRED SCHMANSKY  
PO BOX 9999  
FLOODPLAIN MT 59000

OW01 TRANSFER PROCESSED TO ADD NEW OWNERS. WATER RIGHT WILL  
BE SPLIT INTO SEPARATE OWNERSHIPS AFTER FINAL DECREE.

\_\_\_[ ]PURPOSE (USE): IRRIGATION  
TYPE OF IRRIGATION SYSTEM: SPRINKLER/FLOOD

\_\_\_[\*]SOURCE: LONG CREEK  
SOURCE TYPE: SURFACE WATER

\_\_\_[ ]PRIORITY DATE: 1866  
\_\_\_[ ] TYPE OF RIGHT: FILED

PR51 THE CLAIMED PRIORITY DATE DIFFERS FROM THE  
EARLIEST DATE ON THE FILED NOTICE. THE CLAIMED  
PRIORITY DATE CANNOT BE SUBSTANTIATED.

\_\_\_[\*]FLOW RATE: 1.17 CFS (STD), CLAIMED 2.00 CFS  
(COMPARISON STAT: 17.000 GPM/AC)

FR51 FLOW RATE MAY REQUIRE MODIFICATION BASED ON  
RESOLUTION OF MAXIMUM ACRES ISSUES.

\_\_\_[\*]VOLUME: 0.00  
CLIMATIC AREA: 4

THE TOTAL VOLUME OF THIS RIGHT SHALL NOT EXCEED THE AMOUNT  
PUT TO HISTORICAL AND BENEFICIAL USE.

\_\_\_[ ]MAXIMUM ACRES: 1,800.00

\_\_\_[ ]PERIOD OF USE: APRIL 15 TO OCTOBER 19

\_\_\_[\*]POINTS OF DIVERSION AND MEANS OF DIVERSION:  

	LOT	BLK	QTR	SEC	SEC	TWP	RGE	CNTY	MEANS	TRIB
DV01				NWN	NWNW	05	06N	17W	JE	HG N
DV02				SWN	ESW	04	06N	07W	JE	DM N
DV03				SEN	WNE	32	07N	07W	TE	HG Y

SN01 POINT OF DIVERSION NO. 3 IS ON AN UNNAMED TRIBUTARY  
OF LONG CREEK.

EXHIBIT XII-1 (cont.)

April 2, 2003  
coding

DNRC REVIEW ABSTRACT (CONT.)

41E -W-301224-00

RESERVOIR: (DAM LOCATION)

	ON/OFF/R	QTR	SEC	SEC	TWP	RGE	CNTY
RS01	ON-STREAM	NESW	04	06N	07W	JE	

RESERVOIR DATA: CAPACITY 6.4 DAM HT 10 SURFACE AREA 1.40

RN51 THE CAPACITY, DAM HEIGHT, AND SURFACE AREA HAVE BEEN ESTIMATED BY THE DNRC.

[ ] PLACE OF USE FOR IRRIGATION:

	ACRES	LOT	BLK	QTR	SEC	SEC	TWP	RGE	CNTY
001	360.00						05	06N	07W JE
002	360.00						04	06N	07W JE
003	160.00						33	07N	07W JE
004	320.00				E2		32	07N	07W JE
005	360.00						29	07N	07W JE
006	160.00				NE		08	06N	07W JE
007	80.00				N2SE		30	07N	07W JE
TOTAL 1800.00									

PL51 THE JEFFERSON COUNTY WATER RESOURCES SURVEY (1956) SHOWS 500 ACRES BEING IRRIGATED. A DESCRIPTION OF THESE ACRES IS IN THE CLAIM FILE.

PL53 USDA AERIAL PHOTOGRAPH NO. 179-33, DATED 8/21/79, SHOWS 1540 ACRES BEING IRRIGATED. A DESCRIPTION OF THESE ACRES IS IN THE CLAIM FILE.

PL55 A FIELD INVESTIGATION CONDUCTED ON 3/12/86 FOUND 1600 ACRES PRESENTLY BEING IRRIGATED. SEE CLAIM FILE FOR COMPLETE REPORT.

SUPPLEMENTAL RIGHTS: MAX COMBINED ACRES 1820.00  
W301224-00, W301225-00, W301226-00, W301227-00, W301228-00,  
W301229-00, W301230-00.

GENERAL EXAMINATION REMARKS:

AM51 AMENDMENT WAS SUBMITTED 08/30/82. THE AMENDMENT WAS NOT IMPLEMENTED DUE TO DISAGREEMENT WITHIN THE OWNERSHIP.

SR51 THE MAXIMUM COMBINED ACRES FOR THIS GROUP OF SUPPLEMENTAL CLAIMS MAY REQUIRE MODIFICATION PENDING RESOLUTION OF MAXIMUM IRRIGATED ACRES ISSUES

TR01 NOTICE OF WATER RIGHT TRANSFER RECEIVED 04/11/89.

TR03 NOTICE OF WATER RIGHT TRANSFER RECEIVED 02/21/91.

EXHIBIT XII-1 (cont.)

April 2, 2003

DNRC REVIEW ABSTRACT (CONT.)

41E -W-301224-00

\_\_\_\_ UNPUBLISHED INFORMATION:  
FEE RECEIVED \$40.00  
DATE RECEIVED APR 15, 1982

\*\*\*\*\*  
\* POTENTIAL ERROR/WARNING MESSAGES \*  
\* missing or incomplete priority date (D01) \*  
\* DV01 invalid township, range, or section (I05) \*  
\* DV03 invalid county for township and range (I04) \*  
\* \*  
\*\*\*\*\*

REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
ADDENDUMS: \_\_\_\_ YES \_\_\_\_ NO (NOS: \_\_\_\_ DVRS \_\_\_\_ RSRV \_\_\_\_ POU \_\_\_\_ RMRK \_\_\_\_ OWNER)

CODED BY: \_\_\_\_\_ DATE \_\_\_\_\_

## EXHIBIT XII-2

### COMPUTER STANDARDS AND GENERATED REMARKS

#### REVIEW ABSTRACT PROGRAM AND DECREE PROGRAM

The review abstract program is a working document program. The program prints comparisons, all remark codes and exact text, values before and after standards, keep flags, canned text under certain criteria, and also prints error/warning messages and editing comments.

The decree program is a finished document program. The program prints, in the same order as the review abstract program, most remarks in full text (remark codes are not printed and abbreviated text remarks are converted), canned text under certain criteria.

1. General Information (All Uses):

If the flow/volume value equals zero or some value with no keep flag, then programmed remarks are printed (i.e., FR01 indicates a computer generated remark ) and stored by standards.

If any flow/volume value (including zero) has a keep flag, then no generated computer remarks are printed for that element.

Skip a line between remarks whose ID numbers are not consecutive, or have different ID code letters.

Print any remark beginning with double asterisks so the asterisks stand out in the margin.

Flow rate should be expressed in either gallons per minute (gpm) or cubic feet per second (cfs) units. Flow rates of less than one cfs should be converted into gpm units. Volume should be expressed in units of acre-feet per year. (Note: review prints it, standards stores it, decree reads it)

Review program prints all water rights. Decree program prints only water rights with "W", "O" and "X" prefix ("Z", "J", and suppressed from decree).

Review abstract program prints abbreviated remarks in abbreviated format. Decree program prints full text of remark.

Edit Check is the error/warning message portion of the review abstract for a basin or group of water numbers.

2. VI.E.2.

Computer prints "GOVT" next to a lot number when a lot number is part of a POD and/or POU legal land description and is not accompanied by a subdivision (SB) remark.

## EXHIBIT XII-2 (cont.)

### STANDARDS PROGRAM

The standards program is an update program for each water right and shows changes, if any, to the flow rate, volume and remarks. This program also formulates error messages when standards couldn't apply. The only output for this program are indexes.

1. General Information (All Users)

Carry all applied standards or any corrections of flow rate and volume to the water right record, as well as corresponding purpose and diversion records.

Carry any corrections of period of use from purpose record to all diversion records.

Renumber parcel records to consecutive order if needed.

Flow rate should be expressed in either gallons per minute (gpm) or cubic feet per second (cfs) units. Flow rates of less than one cfs should be converted into gpm units. Volume should be expressed in units of acre-feet per year. (NOTE: review prints it, standards stores it, decree reads it)

Check water right rates and volumes against purpose record rates and volumes, diversion rates, and well rates, and change purpose records flow and volume values to match. Also change period of diversions to match purpose period of use.

As of 11/90, the standards program no longer applies to the period of use.

2. VII.B.3.a Irrigation Flow Rate

Criteria: decreed right  
flow rate > 33.7 gpm/acre  
no keep flag

Computer prints:

FR51THE CLAIMED FLOW RATE EXCEEDS THE 17 GPM PER  
ACRE GUIDELINE AND CANNOT BE CONFIRMED DUE TO LACK  
OF DATA. THE FLOW RATE EQUALS \_\_\_\_\_GPM PER  
ACRE.

(NOTE: review prints it, standards stores it, decree reads it)

3. VII.B.3.b. Irrigation Flow Rate

Criteria: filed or use right  
flow rate > 17 gpm/acre  
no keep flag

Computer action:

- a. flow rate reduced (either in cfs or gpm) to 17 gpm/acre. Flows greater than 448.8 gpm will be listed as gpm or cfs, and those less than 1 cfs will be listed as gpm.

EXHIBIT XII-2 (cont.)

3. VI.F.5. Interbasin Transfer Claims

In the POU basin, the claim will only be noticed. See Figure VI-5 for format and wording.

VI-5 for format and wording.

(NOTE: applies only to decree program)

4. VI.H.3.

When a Y or N reservoir record exists, print review abstract in following order:

- reservoir designation
- onstream or offstream designation
- maximum capacity, dam height, and surface area
- reservoir/lake name, if any, will be printed

When a R reservoir record exists, print review abstract in following order:

- reservoir designation
- R designation
- legal land description
- reservoir/lake name will be printed under source name

Example: SOURCE: MAD DOG CREEK  
SOURCE TYPE: SURFACE WATER  
RESERVOIR/LAKE NAME: MILLER RESERVOIR

(NOTE: review program – prints all reservoir records  
decree program – prints reservoir record only if Y or N  
- prints reservoir/lake name)

5. VI.J.2.

Time of day as part of priority date will be suppressed.

(NOTE: applies to review and decree programs)

6. VII.B.3.b., VIII.B.3.b, IX.A.3.a, X.B.3.b Onstream Reservoirs

Criteria: all uses  
zero flow rate  
no keep flag  
onstream reservoir ("N" reservoir code)  
filed or use right

Computer prints:

NO FLOW RATE HAS BEEN DECREED FOR THIS USE FROM THIS  
ONSTREAM RESERVOIR.

(NOTE: remark not stored in computer data base)

EXHIBIT XII-2 (cont.)

7. VII.B.3.b. Irrigation Flow Rate

Criteria: method of irrigation type = D  
zero flow rate  
no keep flag  
no onstream reservoir  
filed or use right

Computer prints:

NO FLOW RATE HAS BEEN DECREED BECAUSE THIS USE CONSISTS OF  
DIRECT FLOW WATER SPREADING.

(NOTE: remark not stored in computer data base)

8. VII.B.3.b. Irrigation Flow Rate

Criteria: method of irrigation = N  
zero flow rate  
no keep flag  
no onstream reservoir  
filed or use right

Computer prints:

NO FLOW RATE HAS BEEN DECREED FOR THIS USE OF NATURAL  
SUBIRRIGATION.

(NOTE: remark not stored in computer data base)

9. VII.B.3.b. Irrigation Flow Rate

Criteria: method of irrigation = O  
zero flow rate  
no keep flag  
no onstream reservoir  
filed or use right

Computer prints:

NO FLOW RATE HAS BEEN DECREED FOR THIS NATURAL OVERFLOW  
METHOD OF IRRIGATION.

(NOTE: remark not stored in computer data base)

10. VII.C.3.a. Irrigation Volume

Criteria: zero volume  
no keep flag  
any type of right (including decreed rights)

Computer prints:

THE TOTAL VOLUME OF THIS WATER RIGHT SHALL NOT EXCEED THE  
AMOUNT PUT TO HISTORICAL AND BENEFICAL USE.

(NOTE: remark not stored in computer data base)

11. VII.D.1.a.

Computer derives total acres under "Place Of Use" on worksheets and abstracts by adding  
the individual parcel acres.

(NOTE: applies only to review and decree program)

EXHIBIT XII-2 (cont.)

12. VII.E.2.

Based on the data in the examination worksheet supplemental rights statements, the computer relates all supplemental irrigation rights and prints the following remark:

THE WATER RIGHTS FOLLOWING THIS STATEMENT ARE  
SUPPLEMENTAL WHICH MEANS THE RIGHTS HAVE OVERLAPPING  
PLACES OF USE. THE RIGHTS CAN BE COMBINED TO IRRIGATE ONLY  
OVERLAPPING PARCELS OF THE CLIMANT'S TOTAL 99999.99 ACRES.  
EACH RIGHT IS LIMITED TO THE FLOW RATE AND PLACE OF USE OF  
THAT INDIVIDUAL RIGHT. THE SUM TOTAL VOLUME OF THESE  
WATER RIGHTS SHALL NOT EXCEED THE AMOUNT PUT TO  
HISTORICAL AND BENEFICIAL USE.

W000000-00, W000000-00, W000000-00, W000000-00.

(NOTE: Remark is not stored in computer data base, but data in the supplemental rights statement on the examination worksheet is stored. Review prints acres and W numbers, decree program prints full text.)

13. VII.F.3.b.

"J" numbers will not be requested in decree program. Only W, O and X will be printed in decree.

14. IX.A.3.a. Stock Flow Rate

Criteria: use = ST  
zero flow rate  
no keep flag  
no onstream reservoir (if N, go to # 15)

Computer prints:

NO FLOW RATE HAS BEEN DECREED BECAUSE THIS USE CONSISTS OF  
STOCK DRINKING DIRECTLY FROM THE SOURCE, OR FROM A DITCH  
SYSTEM.

(NOTE: remark not stored in computer data base)

15. IX.B.1. Stock Volume

Criteria: use = ST  
zero volume  
no keep flag

Computer prints:

THIS WATER RIGHT INCLUDES THE AMOUNT OF WATER  
CONSUMPTIVELY USED FOR STOCKWATERING PURPOSES AT THE  
RATE OF 30 GALLONS PER DAY PER ANIMAL UNIT. ANIMAL UNITS  
SHALL BE BASED ON REASONABLE CARRYING CAPACITY AND  
HISTORICAL USE OF THE AREA SERVICE BY THIS WATER SOURCE.

(NOTE: remark not stored in computer data base)

16. X.B.3.c.

Criteria :        use = FW, WI, RC, or NV  
                     zero flow rate  
                     zero volume  
                     no keep flag

Computer prints:

THE FLOW RATE AND VOLUME ARE LIMITED TO THE MINIMUM  
AMOUNTS NECESSARY TO SUSTAIN THIS PURPOSE. THIS RIGHT  
SHALL CONTINUE TO BE UTILIZED IN ACCORDANCE WITH  
HISTORICAL PRACTICES.

(NOTE: remark not stored in computer)

17. X.B.3.d.

Criteria:        use = MN  
                     zero volume  
                     no keep flag

Computer prints:

THIS WATER RIGHT IS LIMITED TO THE VOLUME OF WATER  
HISTORICALLY USED FOR MINING PURPOSES.

(NOTE: remark not stored in computer)

18. X.B.3.f.

Criteria:        use = FP  
                     zero flow rate  
                     zero volume  
                     no keep flag

Computer prints:

THE FLOW RATE AND VOLUME OF THIS WATER RIGHT ARE LIMITED  
TO THE MINIMUM AMOUNTS NECESSARY FOR FIRE PROTECTION  
PURPOSES.

(NOTE: remark not stored in computer)

19. XI.E.4.

Computer prints terminated claim abstracts based on "O" prefix.

- Suppress the printing of 'canned' remarks for flow rate and volume.
- Print only TC and GI remarks under General Examination Remarks.
- Suppress printing:
  - Type of irrigation system
  - Source type
  - Type of right
- Print all other remarks under Unpublished Information.

(NOTE:        review program – all four indents apply  
                     decree program – only indents 1, 2, and 3 apply)

## EXHIBIT XIII-4

### DECREE INDEX INSTRUCTIONS

The attached index is designed to help a person research and find water rights included in the decree. The decree consists of a computer-printed abstract for each individual water right decreed in the basin. Depending on the number of water rights within a basin, the decree may be in one or more volumes. Each volume is organized numerically by a water right identification (ID) number.

Whenever a water right is referred to or discussed, use the entire water right ID number. This is the best way to be sure that everyone is communicating about the same water right.

Example of ID number: 41H-W-119240-00

41H	Code for drainage basin.
W-119240-00	Specific identification number assigned to each water right by Department of Natural Resources and Conservation (DNRC)

There are six sections to the index. Each section is organized in a different manner, as outlined below.

#### 1. SOURCE NAME INDEX

This index lists all water rights alphabetically by the source name (source at point of diversion). If the point of diversion of a water right is not on the "main stem" of the source listed, a two letter tributary code will be shown immediately to the left of the source name. For example, UT West Gallatin River means the water right is diverted from an Unnamed Tributary to the West Gallatin River. Additional tributary codes are: SP (spring), WS (waste and seepage), SI (subirrigation), NP (natural pit), MP (manmade pit).

Some sources have more than one commonly used name but only one has been selected as the standardized name. Standardization was based on names designated by the United States Geological Survey, Water Resources Survey, or that in most common local usage. It is recommended that all known names be checked. Also keep in mind that some source names (Spring Creek, Deer Creek, etc..) might identify more than one stream in a basin.

Water rights with the same source name are listed chronologically by priority date. This secondary sort is useful in identifying the seniority of water rights on a specific source.

#### 2. OWNER NAME INDEX:

This index organizes all water rights alphabetically by all owner names. If you want to locate John Q. Public's water rights, look under "P" for Public. If a partnership or corporation is involved, such as Big Sky Angus Ranch, look under "B" for Big. Be sure to look for all likely owner names (ranch name, estate name, etc.) when you use this index as some owners filed rights both under a corporate name and individually.

#### 3. POINT OF DIVERSION INDEX:

In this index, every point of diversion for each water right in the basin is listed by legal land description. The land descriptions are listed from lowest numbered township and range to highest numbered township and range. Within each township and range the sections are listed numerically.

Water rights with the same point of diversion are listed chronologically by priority date. This secondary sort is useful in identifying the seniority of water rights diverted at a particular location.

## **EXHIBIT XIII-4 (cont.)**

### **4. PRIORITY DATE:**

All water rights within the drainage are listed from earliest to latest priority date according to month/day/year. Where no priority date has been decreed, the index shows 00/00/0000. Check the individual decree abstract for an explanation.

Water rights with the same priority date are organized alphabetically by source name. For example, all June 15, 1865, water rights from the West Gallatin River would be together.

### **5. WATER RIGHT ID INDEX:**

Every water right has been assigned an identification number, for example, 41H-W-119240-00. This index organizes all water right ID numbers in numerical order from lowest to highest.

### **6. ISSUE REMARKS INDEX:**

This index is a list of the remarks used by the Water Courts to identify certain problems or issues in the decree. The Water Court used these remarks when there was insufficient information to resolve a problem or potential problem.

This index is arranged numerically by water right ID number. For each right listed the use, flow rate, priority date, source name, and owners are given along with the text of the issue remarks.

### **SUMMARY:**

If you have questions about how to look up water right information in these indexes or how to read the decree abstracts, please contact the DNRC Water Rights Bureau Field Office listed in the Notice of Entry for the decree of this basin.

If you have questions about the correctness of any information in a particular water right, contact the Water Court and perhaps file an objection. How to file an objection is outlined in the Notice of Entry for the decree in each basin.

## EXHIBIT XIII-4 (cont.)

WATER RIGHT ID	FLOW USE	PRIORITY RATE	POINT OF DIVERSION DATE	QTR SEC SEC TWP RGE CN	TRIB	SOURCE NAME	OWNER NAME			
41H-W-119240-00		IR	9.33C	06/15/1904	NENWNE	3 02S 04E GA	WEST GALLATIN RIVER	VALLEY DITCH CO		
41H-W-114869-00		IR	1.23C	06/20/1905	NENWSW	27 01S 04E GA	WEST GALLATIN RIVER	EMMELKAMP	VIVIAN	R
								EMMELKAMP	TRUMAN	L
41H-W-055122-00		ST		03/07/1906	S2	28 07S 04E GA UT	WEST GALLATIN RIVER	US DEPT OF AGRICULTURE FOREST S		
41H-W-022541-00		IR	.75C	03/07/1906	SESWSE	19 01N 04E GA	WEST GALLATIN RIVER	KEYES	E JANE	
								SMITH	C SPENCER	
41H-W-055131-00		ST		06/01/1906	E2	32 07S 04E GA UT	WEST GALLATIN RIVER	US DEPT OF AGRICULTURE FOREST S		
41H-W-055132-00		ST		06/01/1906		32 07S 04E GA UT	WEST GALLATIN RIVER	US DEPT OF AGRICULTURE FOREST S		
41H-W-055133-00		ST		06/01/1906	S2	28 07S 04E GA UT	WEST GALLATIN RIVER	US DEPT OF AGRICULTURE FOREST S		
41H-W-138863-00		ST		01/07/1910	NENWSW	23 02S 04E GA	WEST GALLATIN RIVER	ECTON	RAY	D
								ELLIOT	ADA	E
41H-W-140994-00		IR	2.00C	05/21/1911	NESWNE	16 01S 04E GA	WEST GALLATIN RIVER	HEINTZ	THOMAS	M
41H-W-210619-00		ST		05/23/1911	SESESW	9 01S 04E GA	WEST GALLATIN RIVER	BEAN	BRADLEY	J
								BEAN	JACQUELINE	M
41H-W-030586-00		IR	2.50C	06/01/1912	SESESE	15 03S 04E GA UT	WEST GALLATIN RIVER	A H BLACK CO		
41H-W-136826-00		DM	12.00G	08/13/1912	SESWSW	16 07S 04E GA SP	WEST GALLATIN RIVER	TONN	WILLABELLE	L
								TONN	KENNETH	E
41H-W-015370-00		IR		06/30/1913	SW	20 01N 04E GA SI	WEST GALLATIN RIVER	MYERS	GRACE	E
41H-W-015369-00		ST	30.00G	6/30/1913	SWSW	20 01N 04E GA WS	WEST GALLATIN RIVER	MYERS	GRACE	E
41H-W-140698-00		IR	1.25C	05/10/1914	NESENE	20 07S 04E GA SP	WEST GALLATIN RIVER	TONN	KENNETH	E

NOTE: This is a sample of the Source Name Index. The other indexes have the same seven (7) columns except for the Issue Remarks Index.

- Column 1: This is the water right identification number. This number is necessary to look up a water right abstract in the decree. The best way to request information from either the Water Court or the DNRC for a particular water right is to use this entire number.
- Column 2: This two-letter code designates what the water is used for in this water right. The most common codes are ST for stockwater, DM for domestic, and IR for irrigation. A list of all use codes is on page 4 of these instructions.
- Column 3: This number designates the flow rate for this water right. The letter "C" after the number means the flow rate is measured in cubic feet per second. A letter "G" means gallons per minute. A blank means the Water Court did not quantify a flow rate for this right. Reasons for this can be found in the Findings of Fact and Conclusions of Law for the decree.
- Column 4: This is the priority date for this water right written month/day/year. A 00/00/0000 priority date is explained on the abstract for that right.
- Column 5: This column gives the point of diversion for this water right. All indexes except the Point of Diversion Index list only one point of diversion for each right regardless of the number of diversions claimed. The legal land description is in the format: Quarter Section-Section-Township-Range-County. Counties are listed as two-letter codes. A list of county codes is on page 4 of these instructions.
- Column 6: This is the name of the source of water for the right. A blank space usually indicates a problem with identifying the claimed source. Some names have a two letter code to the left of the source name. This indicates the diversion is on a tributary of the named source listed. These tributary codes are: (UT) Unnamed, (SP) Spring, (WS) Waste and Seepage, (SI) Subirrigation, (MP) Manmade Pit, and (NP) Natural Pit.
- Column 7: This is the owner or owners of this water right. All owners of each right are listed.

**EXHIBIT XIII-4 (cont.)****COUNTY CODES**

BE	Beaverhead	MC	McCone
BH	Big Horn	ME	Meagher
BL	Blaine	MI	Mineral
BR	Broadwater	MS	Missoula
CA	Carbon	MU	Musselshell
CH	Chouteau	PA	Park
CR	Carter	PE	Petroleum
CS	Cascade	PH	Phillips
CU	Custer	PI	Prairie
DA	Daniels	PO	Pondera
DL	Deer Lodge	PR	Powder River
DW	Dawson	PW	Powell
FA	Fallon	RA	Ravalli
FE	Fergus	RI	Richland
FL	Flathead	RO	Roosevelt
GA	Gallatin	RS	Rosebud
GF	Garfield	SA	Sanders
GL	Glacier	SB	Silver Bow
GR	Granite	SG	Sweet Grass
GV	Golden Valley	SH	Sheridan
HI	Hill	ST	Stillwater
JB	Judith Basin	TE	Teton
JE	Jefferson	TO	Toole
LA	Lake	TR	Treasure
LC	Lewis and Clark	VA	Valley
LI	Liberty	WH	Wheatland
LN	Lincoln	WI	Wibaux
MA	Madison	YE	Yellowstone
		YP	Yellowstone Park

**USE CODES**

AS	agricultural spraying	LG	lawn and garden
CM	commercial	MC	municipal
DM	domestic	MD	multiple domestic
DW	dewatering	MN	mining
EC	erosion control	NV	navigation
ED	exploratory drilling	OF	oil well flooding
FC	flood control	OT	observation & testing of groundwater aquifer
FP	fire protection	PA	pollution abatement
FR	fish raceways	PG	power generation
FW	fish and wildlife	RC	recreation
GP	geothermal, power generation	SC	sediment control
IN	industrial	ST	stockwatering
IR	irrigation	WI	wildlife
IS	institutional		

EXHIBIT XIII-5  
CHANGE OF OWNERSHIP LETTER  
(Use Regional Office Letterhead)

January 10, 2000

John Q. Wateruser  
Bottomland Ranch  
Floodplain, MT 59999

RE: Water Right No. 99Z-W999999-00

Dear Mr. Wateruser:

Do you claim any interest to the above water rights? Water right documents have been returned to us because the U.S. Postal Service could not deliver them. Further research on our part shows you may be the party who is the successor in interest to these water rights.

If you are the present owner of these water rights, please fill out the enclosed ownership update form and send or take it to the Water Resources Regional Office in your area. Montana Statute 85-2-424, MCA, requires this ownership update be filed.

After the Department has received the ownership update form, your name will be added as an owner to this water right. The enclosed notice and water right abstracts are for your immediate information concerning adjudication proceedings in your area. Please be aware of specific deadlines that are set in this notice.

If you are not the present owner or choose not to maintain entitled interest, we would appreciate having that information for our records.

Please contact this office if you need further information. Thank you for your attention to this matter.

Sincerely,

Kraig VanVoast  
Water Resources Specialist

Enclosures:      Ownership Update Form  
                     Notice of Availability  
                     Water Right Abstracts

**EXHIBIT XIII-6**

**(CHANGED TO EXHIBIT XIII-5)**

## **EXHIBIT XIII-7**

**(DELETED)**

**EXHIBIT XIII-8**

**(DELETED)**

## **EXHIBIT XIII-9**

**(CHANGED TO EXHIBIT XIII-6)**